

# Comics as a Socio-Behavioral Tool for Economic Literacy: A Process Evaluation of a Senior High School Learning Intervention

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## ABSTRACT

This study presents a process evaluation of the eKOnoMIKS: Comics-based Literacy Project, an economic literacy extension project implemented among Grade 11 students at Casisang National High School in Malaybalay City, Bukidnon, Philippines. Anchored in the theory of change and guided by a process evaluation design, this research employed both quantitative and qualitative approaches, with document analysis as the primary method of data collection. Project documents—including the project proposal, pre- and post-test scores, progress and monitoring reports, and participant feedback forms—were systematically examined to evaluate implementation fidelity, key activities, and immediate outcomes. Key findings indicated a statistically significant improvement in students' economic literacy, supported by qualitative feedback that affirmed alignment with the project's formative intended outcomes. However, the evaluation also revealed several challenges, including logistical constraints, limited resources, scheduling conflicts, and difficulties in maintaining student engagement—highlighting the complex nature of implementing school-based interventions. The study concludes that the eKOnoMIKS project was both effective and contextually appropriate for senior high school learners, largely due to its structured design and process-driven implementation. Implications point to the need for future literacy interventions to incorporate strategies that address operational barriers, such as flexible timelines, strengthened resource allocation, and enhanced engagement mechanisms to promote sustained impact and program continuity.

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## INTRODUCTION

The role of strong economic literacy skills among senior high school students is undeniably important in their future career pathways and active participation in society. It is imperative to put focus on economic literacy among high school learners as they prepare for higher education, the workforce, and independent financial lives. Economic literacy among learners in basic education is still a top concern amongst many developing countries, like the Philippines (Organization for Economic Cooperation and Development, 2024). Studies have found that economic and financial literacy among students is generally low, with many lacking the skills necessary to manage their finances effectively (Cardenas, 2021). One of the key factors influencing financial literacy among students is the level of financial education they receive (Dela Rama et al., 2024).

With the challenges in ICT adaptation and the need for accessible learning modalities

in rural areas, alternative solutions, such as the use of comics, have become a central and timely focus for effective educational delivery given the crucial goal of improving teaching quality within the Philippine educational system. The educational literature emphasizes that one effective way to encourage students' interest in reading is through the use of interactive and visual learning resources, like comics. By fusing visual storytelling with pertinent knowledge, comic-based media have been shown to increase motivation and enhance comprehension (Pratiwi & Bayu, 2024).

Comics, with their unique combination of imagery and text, offer valuable opportunities for exploring how literacy is constructed in social interaction within educational contexts (Wallner, 2020). Comics are a series of adjacent drawn images, usually arranged horizontally, that are designed to be read as a narrative or a chronological sequence. Words may be

introduced within or near each image or they may be dispensed with altogether (Kunzle, 2021). Research indicates that comics, alongside online media, serve as prime sources for students to engage with texts and narratives (Versaci, 2001). Their distinctive multimodal layout, creative use of language, and ability to illustrate time and movement make them particularly effective tools for literacy development (Burke, 2012; Wallner, 2019). Additionally, in a survey of junior high students, comics were ranked first among in-school reading materials, highlighting their strong appeal in that context (Concepcion-Rubas, 2024)

Comics have demonstrated quantifiable effects on reading skills, cultural understanding, and student participation when they are created with pedagogical frameworks. The necessity to investigate alternate learning materials that may both engage students and help them improve their literacy abilities has been acknowledged by educational institutions around the world. Because of its visual appeal, narrative framework, and ability to spark the imagination, digital comics in particular have become recognized as potentially useful tools (Putri et al., 2023). A calculated move to address pupils' waning interest in reading and writing is the incorporation of such visually stimulating objects into literacy training, particularly in situations where conventional text-based methods have not proven very effective.

Previous studies have extensively documented the effectiveness of comics in enhancing literacy. Hammond (2009) explored 12th-grade students' reading responses to graphic novels, demonstrating the affordances of picture-text combinations and concluding that "schools need to reflect the wide range of multimodal literacy practices in which students engage" (p. 144). Similarly, Pantaleo (2015) showed that developing visual literacy skills through comics requires particular knowledge and focus from teachers but offers students the potential to create metalanguage and deeper textual comprehension. Allen and Ingulsrud (2005) demonstrated through extensive surveys and interviews how patterns of personal literacy and belonging to a literacy community are important for young readers of comics.

The production and application of comics in literacy education have been the subject of numerous studies. Nurjannah et al. (2019), for instance, developed a comic that adhered to the discovery learning methodology and discovered that third-grade children's reading comprehension, engagement, and behavior all markedly improved. Similarly, Nafisyah et al. (2023) demonstrated that literacy in elementary school (LISSI) comics, a themed literacy medium, were effective in increasing pre-test and post-test scores in several schools. The pedagogical value of digital media in contextual learning settings was also demonstrated by Pratiwi and Bayu (2024), who found that augmented reality-based comics enhanced fourth-grade students' reading engagement and cultural literacy. Digital comic media can increase learning effectiveness and student interest because, as per research by Nafisyah et al. (2023), reading text and seeing cartoon characters together enhances creativity and comprehension. Furthermore, Cimermanová (2015) and Wijaya et al. (2021) pointed out that comic strips can improve reading and writing abilities, grammatical knowledge, and vocabulary development, ultimately leading to greater independence in literacy activities.

Sustained efforts to improve economics instruction enhance student understanding (Quirao et al., 2023); however, current research largely focuses on outcomes rather than the implementation processes critical for successful and scalable innovation, leaving gaps regarding fidelity, contextual barriers, and stakeholder experiences. To address this empirical void among basic education learners, the eKOnoMIKS Comics-based Literacy Project was developed as a supplemental resource for senior high school students, using alternative media to boost their awareness and understanding of economic and financial concepts, particularly those impacting the Philippine economy, and aiding cognitive development and motivation. Despite the recognized educational potential of comics, skepticism endures, with traditionalists questioning whether they offer sufficient complexity for advanced literacy skills (Sabeti, 2011) or fearing they merely serve as a stepping stone to conventional reading (Wolk, 2008); moreover, the medium's appeal is not universal, as not all students gravitate toward comics

(Wallner, 2020).

The implementation process itself receives little attention in the literature, which mostly concentrates on product creation and outcome monitoring. The implementation fidelity of the current actions, the systemic and contextual elements influencing these processes, and the experiences and opinions of educators and learners about comic-based literacy interventions are all important, unresolved questions. Addressing these issues is essential for the scalability and maintenance of these breakthroughs. This study builds upon the established tradition of process evaluation in educational interventions while incorporating the growing body of research on multimodal literacy practices. It extends the work of researchers like Wallner (2020), who argues for comics literacy as “the collaboration between, on the one hand, communication through combinations of image and text and, on the other hand, constructions of discourses around comics.

The current study fills this gap by providing a process evaluation of the eKOnoMIKS program, an elementary school literacy intervention based on comics. While reorienting the attention to comprehend how and why the program evolves in its specific setting, this evaluation continues the history of employing comics as literacy development tools. This study adds to the growing body of research that underscores not just the effects but also the real-world implementation of educational innovations, by examining implementation fidelity and stakeholder perceptions (Durlak & DuPre, 2008)

## Research Objectives

This study aimed to evaluate the effectiveness and implementation process of the comic-based extension project by assessing its impact on participants’ knowledge and identifying challenges encountered by the extension team. Specifically, the study measured the extent to which the comic-based extension project successfully enhanced the knowledge and insights of the project participants concerning the subject matter; and documented and analyzed the operational and logistical challenges faced

by the extensionists during the implementation of the comic-based project.

## Framework of the Study

This study is anchored on a comprehensive framework that integrates the Weiss’ theory of change (ToC) (1995), principles of extension program evaluation, and concepts of implementation fidelity and visual literacy. The ToC guides the mapping of intended outcomes and the strategies employed in the eKOnoMIKS comics-based literacy program. As an extension initiative, the study adopts an extension program evaluation lens to examine the relevance, effectiveness, and formative impact of the program. Emphasis is also placed on implementation fidelity, ensuring that the program is delivered as intended. Additionally, visual literacy is a key component, recognizing the use of comics as a visual and instructional tool to enhance students’ understanding of economic concepts.

The ToC serves as the overarching structure guiding this research. It outlines the logical and sequential connection between inputs (resources, training, materials), processes (instructional delivery using the adopted NEDA-comics-based learning material, learner engagement, teacher facilitation), and outputs (increased knowledge on economic concepts and issues, positive learning experiences, and participants’ feedback) (Figure 1). ToC supports a formative approach that goes beyond outcomes to explore how and why the eKOnoMIKS project may potentially lead to increased knowledge (Weiss, 1995).

In evaluating implementation, the study draws on the program evaluation concept. Process evaluation focuses not only on what outcomes were achieved but on how the intervention was delivered, who participated, what contextual factors influenced its delivery, and whether it was implemented as intended. In addition to the ToC, this study also draws upon literature related to dimensions of the ToC, particularly on implementation fidelity, and dose/exposure, or the extent of participation by beneficiaries and reach and responsiveness, or the accessibility and reception of the intervention

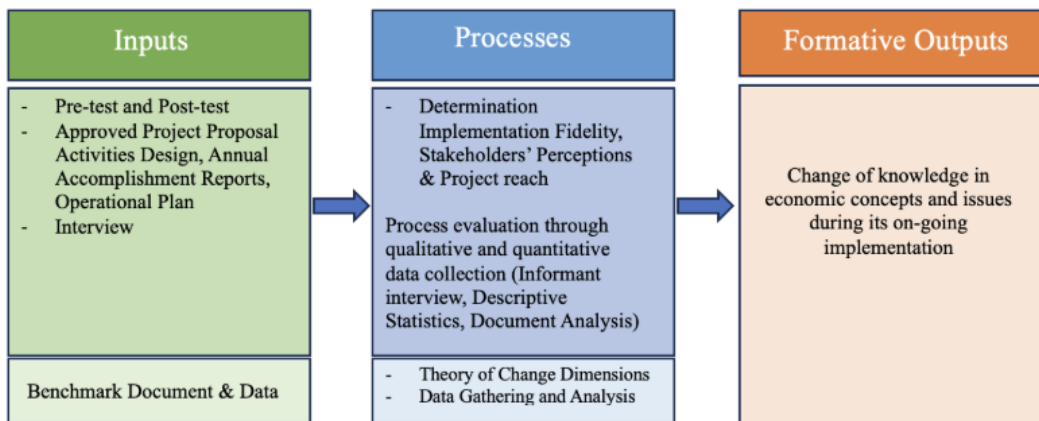
by the target audience.

The concept of implementation fidelity emphasizes the importance of evaluating the extent to which the program is delivered as intended, ensuring that the core components are being implemented with consistency and quality. In the context of this study, fidelity is defined as the extent to which activities were conducted according to plan and was measured by using implementation data (Lemire et al., 2022). Stakeholder perceptions, on the other hand, recognize that the experiences and perspectives of students as the beneficiaries and the extensionists as the implementers are critical to understanding the program’s impact and effectiveness.

In this process evaluation, document analysis and in-depth interviews were administered. The study first collected and analyzed quantitative data from assessment tools to assess key aspects such as implementation fidelity, reach, resource use, and short-term outcomes. The results from this phase then guided the qualitative phase, which involved in-depth interviews with selected participants and project implementers. The qualitative findings helped explain and provide deeper insights into the quantitative results, particularly the factors influencing project implementation and outcomes. Through this mixed-methods explanatory sequential design, the study generated a comprehensive understanding of how the project was implemented, whom it

**Figure 1**

*Procedural Diagram indicating Inputs, Processes, and Formative Outputs*



**METHODS**

**Research Design**

This study employed a mixed-methods approach, specifically an explanatory sequential design, within the framework of evaluation research and a process evaluation as part of a broader impact study. Evaluation research systematically investigates the effectiveness, efficiency, and implementation of programs or interventions, aiming to generate evidence that can inform practice, policy, and future programming (Fitzpatrick et al., 2011).

reached, how resources were utilized, and what immediate effects were observed.

**Research Locale**

The study was conducted at Bukidnon State University in Malaybalay City, Bukidnon, Philippines. This location is ideal as it serves as the central repository for all official documents related to the comic-based literacy project and is where the project implementers are primarily based. Proximity to the project’s operational hub will facilitate access to necessary materials and, if supplementary, brief clarifications.

## Sampling and Sampling Procedure

This study utilized purposive sampling to select participants for the data collection, targeting individuals who were directly involved in the planning and/or implementation of this extension project. This strategy was employed to ensure the collection of rich, context-specific insights regarding the project's execution. For the document analysis of pre-test and post-test results, all student participants with complete data sets were included.

In the case of qualitative data collection, a total of six project implementers/extensionists were invited to participate in the interviews based on predefined eligibility criteria, which included the following: (a) the participant must have served as an extensionist throughout the entire duration of the project implementation; (b) the participant must be reachable via mobile or cellular phone for communication purposes; and (c) the participant must voluntarily consent to participate and provide truthful and reflective responses. Participants retained the right to withdraw their consent and discontinue participation at any point during the study without any penalty.

## Data Collection Process

To answer the research objectives, this study employed multiple data collection strategies that corresponded to key elements of the ToC, namely, inputs, processes for this formative process evaluation phase.

The primary data collection methods utilized were document analysis, coupled with validation from project implementers through interviews. This approach was chosen to provide a comprehensive and triangulated understanding of the project's activities, resource allocation, and initial outcomes as documented in official records and corroborated by key stakeholders. Document analysis involved the systematic review of a comprehensive set of project-related materials, including, but not limited to, the pre-test and post-test scores, learners' video testimonies, project proposals, narrative and accomplishment reports, meeting minutes, and, crucially, the comic-based literacy materials themselves.

Quantitative data were primarily derived from pre- and post-test results of student participants, as documented and included in the project's official accomplishment reports. These standardized assessments were designed to gauge students' learning gains in specific economic concepts targeted by this comic-based literacy project. The scores were extracted directly from the existing project records, ensuring consistency with the project's own monitoring and evaluation framework. Furthermore, to support and enrich the interpretation of the pre- and post-test score differences, the study also analyzed qualitative data from project participants' video materials and customer feedback. This provided crucial participant-level perspectives on their learning experiences and offered valuable context for the observed quantitative results, thereby enhancing the overall credibility and trustworthiness of our findings through triangulation.

To gain in-depth insights into the project's implementation process and the challenges encountered, qualitative data were also collected through in-depth interviews with project implementers. The interview guide was developed targeting experiences, insights and challenges of the extensionist aligned on the concepts of fidelity, reach, resources, context, and outcomes and aligned with the ToC.

## Data Analysis

Data from the pre-test and post-test scores extracted from the project's accomplishment were subjected to descriptive analysis. These scores, representing participants' knowledge of targeted economic concepts, were analyzed using descriptive and inferential statistics.

To determine whether the observed difference in scores was statistically significant, a paired-samples t-test was conducted. This test assessed whether the mean post-test scores significantly exceeded the mean pre-test scores, indicating knowledge gains attributable to the intervention. The significance level was set at  $\alpha = 0.05$ . A p-value less than this threshold indicated that the comics-based intervention had a statistically significant effect on the learners' knowledge of key economic concepts.

Moreover, thematic analysis was employed to identify, organize, and interpret patterns of meaning within the data, which is appropriate for exploring the challenges experienced by the project implementers. Interview transcripts and video materials were analyzed using thematic analysis, following Braun and Clarke's (2006) six-step framework, including (1) familiarization with the data; (2) generation of initial codes; (3) searching for themes; (4) reviewing themes; (5) defining and naming themes; (6) producing the report. The themes were interpreted in light of the research objectives to draw meaningful insights. Coding was done manually. Additionally, to establish credibility, member checking was conducted ensuring that the themes and codes generated accurately reflect the participants' experiences and perspectives. Findings from the quantitative and qualitative data were triangulated (documents, test scores, interviews, and testimonials) to provide a more comprehensive and nuanced understanding of the process evaluation findings. This involves comparing and contrasting the different data sources to confirm, challenge, or enrich the interpretations.

### Ethics Statement

This study was conducted following ethical guidelines for research involving human participants and data. Ethical approval for the study protocol, including the collection and analysis of project documents and the conduct of semi-structured interviews, was obtained from the Bukidnon State University Research Ethics Committee. Before participation, all project implementers invited for interviews were provided with comprehensive information about the study's purpose, procedures, potential risks, and benefits. Informed consent was obtained from each interviewee, ensuring their voluntary participation and right to withdraw at any point without penalty. Personal data and identifiers will be anonymized to protect participants' privacy. Confidentiality and anonymity were maintained throughout the study.

Interview data were de-identified, and any potentially identifiable information from documents or interviews was handled with strict

confidentiality. Secure data storage protocols were implemented. All collected data, including interview transcripts and reviewed documents, were stored securely on password-protected systems accessible only to the research team. The findings are presented in a manner that protects the privacy of individuals and the proprietary information of the financial literacy project, while contributing to the broader understanding of process evaluation in similar contexts. After the study, data will be retained for 3-5 years in line with local regulations. Digital data will be securely deleted, and physical copies will be responsibly destroyed/disposed of.

## RESULTS AND DISCUSSION

The results obtained from document analysis of the participants' pen and paper pre-test and post-tests, corroborated with the narrative responses from selected participants' testimonial videos and further validated by the interviews with the extensionists, are detailed herein. These findings provide compelling evidence for the change in knowledge among the project beneficiaries.

As shown in Table 1, there was an observable improvement in participant scores from pre-test (mean = 6.74, SD = 2.20) to post-test (mean = 8.26, SD = 1.77). The decrease in standard deviation suggests a reduction in score variability, indicating more uniform levels of understanding after the intervention. A paired-samples t-test revealed a statistically significant difference ( $t = -3.843$ ,  $df = 34$ ,  $p = 0.000506$ ), confirming a meaningful learning gain among participants.

The statistical evidence affirms the effectiveness of this economic literacy intervention using comics. The intervention successfully increased knowledge levels while also narrowing the disparity among learners, as demonstrated by the lower SD in the post-test.

However, it is worth noting that some participants showed minimal or no improvement, suggesting that while the comics-based approach is broadly effective, it may not fully address all learning preferences or prior

knowledge gaps. These variations indicate a need for differentiated instructional strategies or reinforcement mechanisms in future iterations of the program.

**Table 1**

*Paired Sample T-test Result of Significant Difference between Pre-test and Post-test of Senior High School Students*

Group	n	Mean	SD	t-cal	df	p-value
Pre-Test	35	6.7429	2.20084	-3.843	34	0.000506
Post-Test	35	8.2571	1.77139			

Participant reflections offer insight into the learning experience. One student remarked:

*“Using stories and illustrations made the lessons easier to understand and more fun to follow. It helped me learn important concepts like budgeting, saving, and spending wisely in a way that felt simpler and relatable.”*

– Participant 1

Another participant emphasized the shift in perception toward financial concepts:

*“You know how some money stuff can be super confusing and boring? Well, comics totally fix that! They turn all those dry, scary finance topics into something you can actually see and follow like a story... I really wish more schools would use this!”*

– Participant 3

A third student linked the program’s relevance to real-life application:

*“This program will help us become responsible with money at home and in school. Most of all, we look forward to learning skills we can use in real life.”*

– Participant 4

These testimonials illustrate the outputs and outcomes within the project’s ToC – from inputs (comic-based modules and training) to immediate outputs (knowledge acquisition) and perceived short-term outcomes (value formation and applied understanding). These results align with the primary objective of the extension project, which was to facilitate learning and improvement among its participants.

The positive shifts in scores underscore

the efficacy of the project’s design, content, and delivery methods in achieving its immediate educational outcomes. While this study focuses on the immediate impact as measured by pre-post tests, these promising results lay a strong foundation for future evaluations that might explore the long-term outcome and practical application of the acquired knowledge or skills. The significant improvement in participant scores provides preliminary validation for the continued implementation and potential scaling of similar extension project initiatives.

The findings support prior literature, including Gabay et al. (2024), who highlighted existing knowledge gaps in budgeting and financial literacy among Filipino SHS students, validating the need for targeted, multimodal interventions. Uchang et al. (2022) similarly found that well-designed extension services yield statistically significant improvements in participant capabilities.

Figure 2 presents the raw scores of the 35 senior high school students in the pre-test and post-test. The orange line indicates pre-test scores, while the blue line shows post-test scores. Analysis reveals that most students performed better in the post-test, with scores shifting from a 4–7 range in the pre-test to an 8–11 range in the post-test. This improvement aligns with the results of the paired sample t-test ( $t = -3.843$ ,  $p = 0.000506$ ), confirming a statistically significant increase in scores. The mean rose from mean = 6.74 (pre-test) to mean = 8.26 (post-test), indicating that the intervention had a positive effect on learners’ economic literacy. A general upward trend is visible, suggesting improved performance after the intervention.

The improvement of the learners’ test scores can be attributed to the pedagogical strengths of comics as a multimodal tool. Comics combine visual imagery with written text, making them an ideal medium for engaging learners, particularly those who may struggle with traditional instructional formats. For example, when the economic concept of “Demand & Supply” was presented in the form of a comic strip, as reflected in the NEDA Comic-based material, it was illustrated through relatable scenarios such as a local market’s fluctuation in

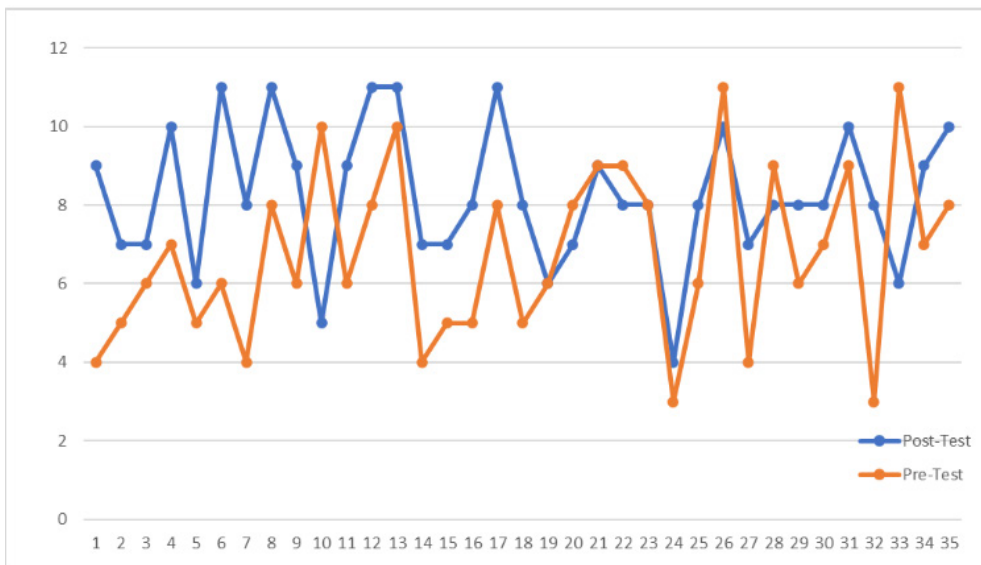
prices. The characters, dialogue, and sequence of panels visually represented the abstract interplay between demand and supply which made the learners more receptive to the concept, allowing them to construct meaning based on context, dialogue, and imagery.

Moreover, the interview response of one participant aligns with this emerging

based studies have shown that using comics as instructional materials can significantly enhance students' reading comprehension and motivation, particularly when the content is culturally relevant and engaging (Bugtong et al., 2025). The study found that comics increased student engagement and provided inclusive pathways for literacy development, especially for students with limited access to diverse reading

**Figure 2**

*Raw Scores of the Pre-test and Post-test of the Senior High School Students*



observation:

*“Using stories and illustrations made the lessons easier to understand and more fun to follow” – Participant 1*

This aligns with the sentiments expressed by Participant 2 during the interview, who stated:

*“We learned how to budget, save, and spend wisely. The lessons were practical and easy to understand. Now, I feel confident in budgeting my money. We are thankful for that. It’s a helpful experience.” – Participant 2*

Cohn (2019) supports this by showing that the combination of visual narrative (images) and text in comics can reduce cognitive demands and improve comprehension, especially among readers who benefit from dual-coding of information. In the Philippine context, classroom-

materials.

However, six students (S10, S20, S22, S26, S28, and S33) demonstrated a decrease in scores. These deviations signal the presence of learner-specific or systemic factors that may have hindered learning, despite the program’s overall success. The observed declines in post-test scores for the identified learners can be attributed to a complex interplay of student-specific psychological factors, cognitive processing challenges related to broader external or implementation-related challenges.

The inconsistent schedule, reduced session length, and possible cognitive fatigue during late-day sessions may have disproportionately affected these learners. Additionally, without formative checks for understanding, early misconceptions may have gone unaddressed, which could explain why

learning did not consolidate for all participants. Extensionists also reported difficulty in completing all five topics within the constrained time frame. Rushing through content may have led to superficial understanding, especially for students who require more time to process information. The low completion rate among the first batch (only 3 out of 5 fully finished the training) further reflects the logistical and scheduling constraints that likely interfered with the intended reach and quality of the intervention.

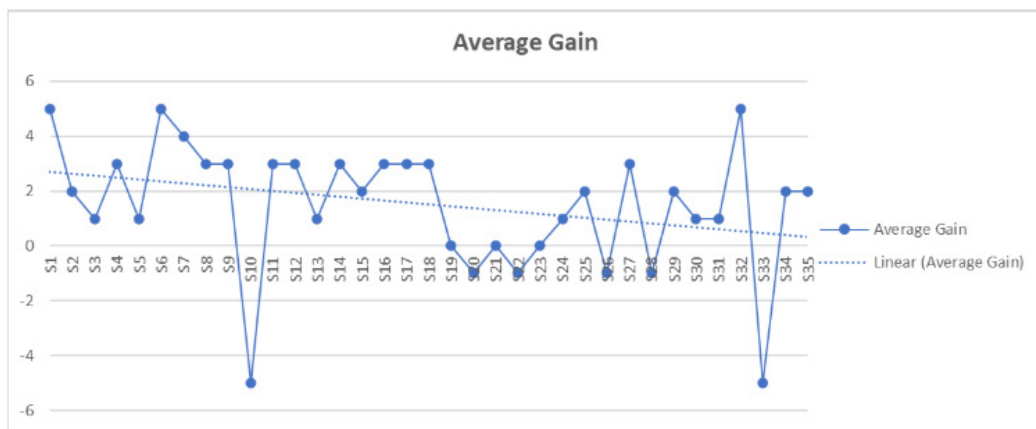
Figure 3 represents the average gain of 35 senior high school students, where gain is calculated as  $\text{Gain} = \text{Post-test score} - \text{Pre-test score}$ . The finding shows linear trendline

than their pre-test scores. A few students such as S19, S21, and S23 had gained zero, meaning no significant improvement between the pre- and post-test.

While some students such as S10, S20, S22, S26, and S33 had negative gain scores. Overall, more students demonstrated positive gains than those who showed no change or declined, suggesting that the intervention was generally effective in improving student performance. These robust quantitative findings, corroborated by the insightful qualitative data from participant interviews, affirm that the project’s design and implementation were well-suited to achieve its educational objectives,

**Figure 3**

*Average Gain of the Senior High School Students from the Pre-test and Post-test*



slopes slightly downward, suggesting a gradual decrease in gain scores as student numbers progress. This hints at potential factors influencing individual learning. This is a common phenomenon in educational interventions. The solid line represents each student’s gain, and the dotted line is the linear trendline, showing the general direction of the data over the group. The linear trendline slopes that are slightly downward, suggesting a gradual decrease in gain scores as student numbers progress. This may indicate that while many students improved, the extent of improvement varied and slightly declined among later students. The majority of the students such as S1 to S9, S11 to S8, S24 to S25, S27, S29 to S32, S34, and S35 show positive gain scores, meaning their post-test scores were higher

leading to a positive and meaningful impact on the financial literacy of the senior high school students. According to Combo et al. (2025), the intervention program was generally effective in improving student performance, with more students demonstrating positive gains than those showing no change or decline.

### Challenges Encountered

To ensure a comprehensive and multi-perspective process evaluation of the ongoing eKOnoMIKS: Comics-based Literacy Project, the challenges faced by its extensionists were also explored. This approach aimed to uncover practical hurdles and operational insights that might not be apparent from quantitative

data alone, providing a richer understanding of the project's implementation fidelity and effectiveness. The insights gathered from the extensionists' interview responses highlight critical areas for improvement and align with common challenges discussed in the broader literature on educational project management. This section presents themes depicting the challenges encountered by the extensionists.

### **Theme 1: Logistical and Scheduling Coordination**

Coordinating schedules, particularly with the student beneficiaries (Grade 11 students) and the partner school, posed a significant hurdle. This often led to difficulties in consistent project delivery, including conflicts with school activities and limited availability of students.

*"There were times that our schedule did not match with the HS students (e.g., exam period, prior commitments, and activities where HS students are engaged)."* –Participant 7

Logistical challenges are common in school-based interventions, especially in dynamic environments where school calendars are packed with academic and extracurricular events. Research on program implementation, such as that by Honig (2006) on district leadership for instructional improvement, often highlights the critical role of strong inter-organizational coordination and flexible scheduling. The need for constant communication and adaptability is crucial to ensure the successful integration of external projects into the existing school environment, minimizing disruptions and maximizing participation.

### **Theme 2: Time Constraints and Pacing for Content Delivery**

The limited time allocated for each session was a recurring concern for implementers, impacting both the depth of content that could be covered and the ability to sustain student engagement throughout the intervention.

*"One obstacle (although personal and relative) is the limited time given in every interactive discussion*

*which was 30 minutes once a month."* – Participant 7

*"Furthermore, it was difficult to fully cover every topic and keep their active engagement throughout the intervention due to the limited amount of time allotted for each lesson."* – Participant 8

The challenge of insufficient instructional time aligns with educational theories on effective learning, which posit that complex concepts, such as economic concepts, require sustained engagement, opportunities for deeper processing, reflection, and practical application (e.g., constructivist learning theories advocated by Piaget or Vygotsky). A short duration can hinder comprehensive understanding, limit interactive activities, and ultimately reduce the long-term impact of the intervention. This is particularly relevant for abstract topics where repeated exposure and varied teaching methods are beneficial (Bruner, 1960).

### **Theme 3: Resource Scarcity and Budgetary Constraints**

One significant problem experienced by implementers was a lack of resources, notably financial resources, which impacted the production of necessary materials. While the main comic and presentation materials were available, the process of reproduction proved difficult due to financial constraints. This necessitated careful management of existing funds and, at times, led to operational bottlenecks.

*"In terms of materials (comics and PPT), we did not have a problem, but it was more with the printing of the materials. We need more bond papers and inks for this purpose. Simply put, it is more a matter of budget constraints, but so far manageable."* – Participant 6

*"Budget for materials used for printing and accomplishments reports."* – Participant 10

This issue is consistent with the literature on educational project management, where insufficient or rigid funding frequently results in operational challenges and sacrifices in project quality or reach. As Fullan (2007) points out in his work on educational reform, resource constraints can considerably delay even well-designed initiatives, causing implementers to

make difficult decisions that may have an impact on the program's desired outcome. Similarly, Levin's (1983) studies on educational finance highlight how economic constraints can limit access to critical materials and the scope of intervention, thereby affecting success.

#### **Theme 4: Sustained Student Engagement**

Sustained student engagement is one of the project's significant challenges in implementing the comic-based literacy extension initiative. The introduction of comics as an alternative learning material may elicit active participation of the students. However, maintaining their attention and engagement was a difficult task. This was due to the limited time allotted for the project implementers to present the topic. This resulted to fitting in all of the activities and the project implementers input through short lectures in a limited span of time. Also, the specific time for the activity is nearing the end of the daily class schedule, when students are already overloaded with the day's lesson of the previous subjects, causing a very short attention span and short engagement. This is supported by the study of Thomas (2000) which underscores that disengagement is indeed a significant and persistent problem in project-based learning. Student engagement fluctuated over time, particularly in response to assessment deadlines and time constraints.

*"It was difficult to fully cover every topic and keep their active engagement throughout the intervention due to the limited amount of time allotted for each lesson." – Participant 12*

*"It is difficult also for us, especially because the schedule given to us is usually the half of the time of the last subject of the day, when students are already tired and loaded with the lessons from the previous subjects." – Participant 11*

#### **CONCLUSION**

In light of the findings, the study affirms the effectiveness of this comics-based economic literacy extension project for senior high school students. The statistically significant improvements in participants' economic

knowledge, skills, values, and attitudes after the intervention underscore the intervention's success in meeting its immediate learning objectives. Notably, the use of comics as a multimodal learning tool emerged as a practically significant strategy, making economic concepts more relatable, accessible, and memorable for young learners. The high positive feedback further confirms the intervention's alignment with learner needs and preferences.

This study provides insights for implementation beyond immediate educational gains, notably about how structured, context-specific interventions provided through creative, student-centered modalities such as comics might bridge knowledge gaps. It also contributes to the growing body of literature on multimodal literacy, reinforcing how visual narratives and storytelling can deepen understanding in non-traditional content areas like financial and economic education. While the project demonstrated notable gains, challenges such as logistical constraints, limited resources, and the need for sustained engagement point to areas for improvement in future project enhancements. Addressing these challenges is crucial to refining the project design for wider adoption, sustainability, and long-term impact. Ultimately, the findings highlight the promise of innovative, learner-responsive extension strategies in strengthening the financial literacy landscape of senior high school students.

#### **RECOMMENDATION**

The proven effectiveness and relevance of the economic literacy extension program, as evidenced in the success of improving participants' economic knowledge, attitudes, skills, and values suggest that future applications would consolidate these sound results through strategically addressing identified implementation challenges. To enhance consistency and maximize impact, future planning should prioritize flexible scheduling and robust logistical coordination with partner schools and student beneficiaries, through streamlined communication protocols. Furthermore, extending session durations or increasing frequency could allow for deeper

content exploration and more sustained student engagement, potentially incorporating varied pedagogical approaches to maintain interest. Finally, securing more comprehensive and reliable funding streams and resource allocation will be crucial to ensure the uninterrupted production of necessary materials and to support a broader reach, thereby solidifying the project's long-term sustainability and further amplifying its positive educational outcomes for senior high school students.

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